

2. Specification Amendments

Please amend the specification at paragraphs [0033] and [0035] as shown below:

[0033] Turning now to Fig. 4, LED die 22 on wafer 30 is, in a preferred embodiment of the invention, enclosed in an encapsulant material ~~34~~ 35. This encapsulant material is preferably a high refractive index optical gel such as those manufactured by Lightspan, LLC of Wareham, Massachusetts.

Encapsulant material ~~34~~ 35 serves to increase the efficiency of the production of light in the illumination system comprising wafer 30 and LED die 22.

[0035] Taking the example of Lightspan™ optical gel with an optical index of 1.6 and a gallium nitride LED die with a refractive index of 2.5, and substituting these values into the critical angle equation, yields a critical angle of approximately 40°, significantly improved over the critical value of 24° where the material in contact with LED die 22 is air. This increase in critical angle provides an increase in light extraction of about 2.8X. Thus to reduce the loss of optical efficiency due to these reflections and therefore increasing the useful power output of each wafer 30 and each of its associated LED dies 22, each die 22 is encapsulated with encapsulant ~~34~~ 35. The preferable form of encapsulant ~~34~~ 35 is hemispherical, thus acting as a lens to further focus the light from LED dies 22. Encapsulant ~~34~~ 35 also acts as a protective package for the LED die 22 within the system.